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AUTHOR Palladino, Joseph J.; Carducci, Bernardo J.
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ABSTRACT

Questionnaires designed to tap misconceptions of the content of psychology courses can serve as pedagogical devices useful for introducing students to topics and for evaluating student learning. The topic of sleep and dreams is of particular interest to students. To develop a useful introductory tool and to evaluate students' knowledge of sleep, dreams, and sleep disorders, a 39-item questionnaire in true/false format was designed. College students in introductory psychology courses (N=232) completed the questionnaire prior to coverage of those topics. In general, the results indicated that students were not poorly informed about the topics of sleep and dreams. Examples of students' inaccurate knowledge included beliefs that dreams only occur during REM (rapid eye movement) sleep, and that insomnia is caused by muscle tension. Students' major area of misinformation centered on some of the rarer sleep disorders, e.g., sleep apnea. However, students were knowledgeable concerning the difficulties associated with various sleep medications. The sleep and dreams questionnaire is appended. (WAS)

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Students' knowledge of "Things that go bump in the night"

Joseph J. Palladino
Indiana State University
Evansville

Bernardo J. Carducci
Indiana University Southeast

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Presented at the annual meeting of the Southeastern Psychological Association, March 1983, Atlanta.

ABSTRACT

A 39-ITEM QUESTIONNAIRE IN TRUE/FALSE FORMAT WAS DESIGNED TO ASSESS STUDENTS' KNOWLEDGE OF SLEEP, DREAMS, AND SLEEP DISORDERS. THE QUESTIONNAIRES WERE ADMINISTERED TO 232 STUDENTS IN INTRODUCTORY PSYCHOLOGY COURSES PRIOR TO COVERAGE OF THE TOPICS OF SLEEP AND DREAMS IN THOSE COURSES. IN GENERAL, THE RESULTS INDICATED THAT STUDENTS WERE NOT POORLY INFORMED ABOUT THE TOPICS OF SLEEP AND DREAMS. SPECIFIC EXAMPLES OF STUDENTS' ACCURATE AND INACCURATE KNOWLEDGE WERE DISCUSSED. IT SEEMED THAT STUDENTS' MAJOR AREA OF MISINFORMATION CENTERED ON SOME OF THE RARER SLEEP DISORDERS. ON THE OTHER HAND, STUDENTS WERE KNOWLEDGEABLE CONCERNING THE DIFFICULTIES WITH USE OF VARIOUS SLEEP MEDICATIONS. THIS QUESTIONNAIRE MAY PROVIDE A CONVENIENT METHOD TO INTRODUCE STUDENTS TO THE TOPICS OF SLEEP AND DREAMS. IT CAN ALSO SERVE AS A PRE-POST MEASURE TO ASSESS STUDENT LEARNING OF THESE TOPIC AREAS.

RECENTLY A NUMBER OF STUDIES HAVE INVESTIGATED STUDENTS' KNOWLEDGE OF VARIOUS AREAS OF PSYCHOLOGY. RESEARCHERS HAVE OFTEN POSED QUESTIONS DESIGNED TO TAP MISCONCEPTIONS OF THE CONTENT OF PSYCHOLOGY COURSES (E.G., GUTMAN, 1979). THESE QUESTIONNAIRES SERVE AS USEFUL PEDAGOGICAL DEVICES SINCE THEY CAN BE USED TO INTRODUCE STUDENTS TO THE TOPICS TO BE COVERED. THEY CAN ALSO BE USED TO EVALUATE STUDENT LEARNING (PALLADINO, 1980). ONE AREA OF PSYCHOLOGY THAT IS OF PARTICULAR INTEREST TO STUDENTS IS THE FIELD OF SLEEP AND DREAMS (BROWN, 1980). VIRTUALLY EVERY INTRODUCTORY PSYCHOLOGY TEXTBOOK HAS A SECTION DEVOTED TO SLEEP AND DREAMS, OFTEN IN A CHAPTER ON CONSCIOUSNESS. CERTAINLY, THE TOPICS OF SLEEP AND DREAMS ARE COVERED IN INTRODUCTORY TEXTBOOKS AND STUDENTS DEFINITELY ARE INTERESTED IN THIS MATERIAL. THIS STUDY WAS DESIGNED TO EVALUATE STUDENTS' KNOWLEDGE OF SLEEP AND DREAMS PRIOR TO THE MATERIAL BEING COVERED IN AN INTRODUCTORY PSYCHOLOGY COURSE.

METHOD

A SLEEP AND DREAMS QUESTIONNAIRE WAS DESIGNED FOR USE IN THIS STUDY BY THE FIRST AUTHOR WHO HAS TAUGHT A SLEEP AND DREAMS COURSE SEVERAL TIMES. HOWEVER, THE ITEM CONTENT WAS DESIGNED TO REFLECT THE TYPE OF MATERIAL THAT IS OFTEN COVERED EITHER IN INTRODUCTORY TEXTBOOKS OR IN LECTURE CONTENT AT THE INTRODUCTORY LEVEL. ITEM CONTENT WAS DRAWN FROM THE FIRST AUTHOR'S EXPERIENCE IN TEACHING ABOUT SLEEP AND DREAMS AND WAS BASED ON STANDARD TEXTS IN THE AREA (E.G. CARTWRIGHT, 1973; DEMENT, 1973; HALL, 1966). A NUMBER OF THE ITEMS INCLUDED IN THE QUESTIONNAIRE ARE SIMILAR TO ITEMS CONTAINED IN PROJECT SLEEP'S MYTHS AND FACTS

ABOUT SLEEP. PROJECT SLEEP WAS SPONSORED BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES IN ORDER TO INFORM PHYSICIANS AND THE GENERAL PUBLIC ABOUT INSOMNIA AND OTHER SLEEP DISORDERS. THIRTY-NINE ITEMS WERE WRITTEN FOR THIS QUESTIONNAIRE. UNLIKE SOME OF THE QUESTIONNAIRES DESIGNED SOLELY TO EVALUATE MISCONCEPTIONS, THE ANSWERS TO THESE QUESTIONS COULD BE EITHER TRUE OR FALSE. IN GUTMAN'S QUESTIONNAIRE, THE CORRECT ANSWER WAS ALWAYS FALSE. THE ITEMS WERE REWRITTEN AFTER CONSULTATION WITH TWO PSYCHOLOGISTS WHO HAVE TAUGHT COURSES ON SLEEP AND DREAMS. CHANGES IN THE ITEMS WERE MADE TO AVOID AMBIGUITY AND TO HAVE THE ITEMS READ MORE CLEARLY FOR STUDENTS WHO MIGHT HAVE DIFFICULTY WITH SOME TECHNICAL TERMS.

THE QUESTIONNAIRE WAS ADMINISTERED TO 232 STUDENTS AT INDIANA STATE UNIVERSITY EVANSVILLE AND INDIANA UNIVERSITY SOUTHEAST DURING SEPTEMBER, 1982. THE QUESTIONNAIRES WERE ADMINISTERED IN THE AUTHORS' INTRODUCTORY COURSES PRIOR TO DISCUSSION OF THIS MATERIAL. THE QUESTIONNAIRES REQUESTED DEMOGRAPHIC INFORMATION INCLUDING YEAR IN COLLEGE, SEX OF STUDENT, AND INTENDED MAJOR. THE DATA TO BE ANALYZED CONSISTED OF THE STUDENTS' ANSWERS TO THE 39 TRUE/FALSE ITEMS (WHICH CAN BE FOUND IN THE ACCOMPANYING TABLE).

RESULTS

CHI-SQUARE ANALYSES REGARDING THE EFFECTS OF YEAR IN SCHOOL WERE NOT CONDUCTED SINCE THE OVERWHELMING MAJORITY OF STUDENTS WERE FRESHMEN. MOST OF THE STUDENTS WERE UNDECIDED ABOUT THEIR INTENDED MAJOR SO INTENDED MAJOR WAS NOT USED IN THE

ANALYSES. CHI-SQUARE ANALYSES OF ANSWER PATTERNS AS A FUNCTION OF SEX OF STUDENT YIELDED RESULTS WHICH WERE CONSISTENT WITH THE LARGE NUMBER OF ANALYSES CONDUCTED.

THE RESULTS CAN BE FOUND IN THE ACCOMPANYING TABLE. FOR EACH ITEM, THE PERCENTAGE OF STUDENTS RESPONDING TRUE OR FALSE ARE LISTED. THE UNDERLINED PERCENTAGE INDICATES THE CORRECT ANSWER.

IN GENERAL, THE RESULTS INDICATE THAT STUDENTS ARE NOT GROSSLY MISINFORMED ABOUT THE TOPICS OF SLEEP AND DREAMS. THE MAJORITY OF STUDENTS WERE OFTEN ABLE TO ANSWER CORRECTLY. NOTE THAT THE ANSWERS FOR EACH OF THE ITEMS IN THE QUESTIONNAIRE ARE SUPPORTED BY REFERENCES TO VARIOUS ARTICLES OR BOOKS (WHICH CAN BE FOUND IN AN ACCOMPANYING APPENDIX).

SEVERAL OF THE ITEMS DID STAND OUT AS PARTICULARLY DIFFICULT FOR STUDENTS. FOR EXAMPLE, 71% OF THE STUDENTS BELIEVE THAT DREAMS OCCUR ONLY DURING REM SLEEP. THUS ONLY 29% OF THE STUDENTS KNEW THE CORRECT ANSWER. ONLY 19% OF THE STUDENTS KNEW THAT SOME PEOPLE CANNOT BREATHE AND SLEEP AT THE SAME TIME. NO DOUBT THAT MANY STUDENTS THOUGHT THIS MIGHT BE SOME TYPE OF TRICK QUESTION, BUT THE STATEMENT IS, IN FACT, TRUE.

MOST STUDENTS BELIEVE THAT INSOMNIA IS CAUSED BY MUSCLE TENSION DESPITE EVIDENCE TO THE CONTRARY. FULLY 90% OF THE STUDENTS RECOGNIZE THAT SOME DRUGS MAKE INSOMNIA WORSE. EIGHTY-TWO PERCENT OF THE STUDENTS BELIEVED IT IS DIFFICULT TO BECOME ACCUSTOMED TO SLEEPING IN A SLEEP LAB. ALMOST 50% OF STUDENTS BELIEVE THAT THE DEEPEST STAGES OF SLEEP INCREASE AS WE GET OLDER AND ONLY 21% OF STUDENTS BELIEVE THAT THERE IS A THEORY

THAT SLEEP SERVES NO FUNCTION. TWO-THIRDS OF THE STUDENTS DID NOT KNOW THAT SOME PEOPLE CAN WAKE UP 500 TIMES PER NIGHT AND NOT KNOW IT.

DISCUSSION

AS MENTIONED BEFORE, STUDENTS ARE NOT POORLY INFORMED ABOUT THE TOPICS OF SLEEP AND DREAMS. IN A NUMBER OF CASES, THEIR INCORRECT RESPONSES ARE ATTRIBUTABLE TO WHAT THEY HAVE HEARD AND/OR READ (PERHAPS IN HIGH SCHOOL). MANY INTRODUCTORY PSYCHOLOGY TEXTBOOKS EQUATE REM WITH DREAMING, DESPITE EVIDENCE THAT DREAMING OCCURS IN OTHER STAGES (CARTWRIGHT, 1978; DEMENT, 1973). STUDENTS' LACK OF KNOWLEDGE WAS MOST APPARENT ABOUT THE RARER SLEEP DISORDERS SUCH AS SLEEP APNEA. ONE VERY POSITIVE NOTE, STUDENTS SHOW AWARENESS ABOUT THE ILL EFFECTS OF MEDICATIONS TAKEN FOR INSOMNIA. THEIR KNOWLEDGE AND RECOGNITION OF THE PROBLEMS ASSOCIATED WITH SLEEPING MEDICATIONS PARALLELS A GROWING AWARENESS ON THE PART OF PHYSICIANS WHO HAVE DECREASED PRESCRIPTIONS OF THESE DRUGS.

THIS 39-ITEM QUESTIONNAIRE PROVIDES AN INTERESTING WAY TO INTRODUCE STUDENTS TO THE TOPICS OF SLEEP AND DREAMS. THE ACCOMPANYING REFERENCES TO SUPPORT THE ANSWERS MAY PROVE USEFUL TO INDIVIDUALS WHO WISH TO EXPAND THEIR COVERAGE OF THESE TOPICS IN INTRODUCTORY PSYCHOLOGY COURSES.

FUTURE PROJECTS WITH THIS QUESTIONNAIRE INCLUDE USING IT AS A PRE-POST MEASURE TO ASSESS STUDENT LEARNING. ALSO, A NUMBER OF ITEMS WILL BE REWRITTEN FOR GREATER CLARITY AND SEVERAL ITEMS WILL BE ADDED TO EXPAND COVERAGE TO SOME SLEEP DISORDERS NOT CURRENTLY COVERED IN THE QUESTIONNAIRE.

REFERENCES

Brown, L.T. What the consumer thinks is important in the introductory psychology course. Teaching of Psychology, 1980, 7, 215-218.

Cartwright, R.D. A primer on sleep and dreaming. Reading, MA: Addison-Wesley, 1978.

Dement, W.C. Some must watch while some must sleep. New York: W.W. Norton, 1978.

Gutman, A. Misconceptions of psychology and performance in the introductory course. Teaching of Psychology, 1979, 6, 159-161.

Hall, C.S. The meaning of dreams. New York: McGraw-Hill, 1966.

Palladino, J.J. Instructor's manual to accompany Abnormal Psychology. New York: Holt, Rinehart and Winston, 1981.

SLEEP AND DREAMS QUESTIONNAIRE

		TRUE	FALSE
1.	DREAMS OCCUR ONLY DURING REM (RAPID-EYE-MOVEMENT) PERIODS OF SLEEP.	71%	29%
2.	INSOMNIA CAN BE EFFECTIVELY CURED BY MEANS OF DRUGS.	38%	62%
3.	ONLY WITH THE HELP OF A PSYCHOANALYST CAN A PERSON INTERPRET DREAM SYMBOLS.	26%	74%
4.	WE DREAM IN COLOR.	68%	32%
5.	SOME PEOPLE NEVER DREAM.	20%	80%
6.	SLEEPTALKING IS A SIGN OF PROBLEMS.	19%	81%
7.	SOME PEOPLE CAN GET ALONG ON AS LITTLE AS 2 HOURS OF SLEEP A NIGHT.	62%	38%
8.	MOST DREAMS ARE CAUSED BY BODILY SENSATIONS SUCH AS AN UPSET STOMACH.	21%	79%
9.	IT HAS BEEN PROVEN THAT 8 HOURS OF SLEEP IS NEEDED TO MAINTAIN MENTAL HEALTH	32%	68%
10.	WHEN PEOPLE DO NOT RECALL THEIR DREAMS IT IS PROBABLY BECAUSE THEY ARE TRYING TO REPRESS THEM.	31%	69%
11.	DEPRIVING SOMEONE OF SLEEP WILL CAUSE THE INDIVIDUAL TO BECOME SCHIZOPHRENIC.	32%	68%
12.	IF WE LOSE SOME SLEEP, WE WILL EVENTUALLY MAKE UP THE LOST AMOUNT OF SLEEP THE NEXT NIGHT OR ANOTHER NIGHT.	39%	61%
13.	SOME PEOPLE CANNOT BREATHE AND SLEEP AT THE SAME TIME.	19%	81%
14.	SLEEP ENABLES THE BRAIN TO REST SINCE THERE IS LITTLE BRAIN ACTIVITY TAKING PLACE DURING SLEEP.	54%	46%
15.	SOME PEOPLE SUFFER SUFFER FROM ATTACKS OF SLEEP DURING THE DAY.	86%	14%
16.	NAPS RARELY HAVE A REFRESHING EFFECT.	24%	76%
17.	MOST DREAMS CONSIST OF PLEASANT EVENTS AND JOYFUL EMOTIONAL EXPRESSION.	32%	68%
18.	MEN DREAM ABOUT WOMEN PRIMARILY AND WOMEN DREAM PRIMARILY ABOUT MEN.	33%	67%
19.	CHILDREN HAVE LESS REM SLEEP THAN ADULTS SINCE THEY HAVE LESS TO DREAM ABOUT.	7%	93%
20.	NO ONE HAS BEEN ABLE TO GO MORE THAN 4 DAYS WITHOUT SLEEP.	34%	66%

INFORMATION REGARDING STATEMENTS COMPRISING THE
SLEEP AND DREAMS QUESTIONNAIRE

1. Apparently this depends very much on the definition of a dream used and the expectations of the experimenter. Cartwright (1978) notes that "The percent of reports from the NREM sleep stages that qualify as dreams has varied from 24 to 74 percent. It seems clear that the ongoing mental activity changes character ... but the correlation of a particular brain state and mental activity type is not that clear throughout the rest of sleep. There is a good deal of dream-like activity going on intermittenly throughout all sleep" (p. 17). Dement (1978) writes "Two significant facts have emerged from these investigations: REM sleep can no longer be considered exclusively synonymous with dreaming, and NREM sleep is not a mental void" (p. 45).

2. "Insomnia is not an illness for which a sleeping pill is the cure; insomnia is a symptom (a complaint) which can have many different causes" (Hartmann, 1978, p. 111). According to Project Sleep's Myths and Facts About Sleep, "Insomnia cannot be 'corrected' by sleeping pills. No drug-induced sleep is a substitute for normal sleep" (1981, p. 4).

3. "Any clear-headed person should be able to interpret dreams" (Hall, 1966, p. 85). "We used suggestions from Freud, Jung, and many others, taking great heart from the work of Dr. Calvin Hall, the American dream psychologist, whose book The Meaning of Dreams demystified Freud's ideas and showed how anyone can learn the language of his dreams by looking at them as pictures. By trial and error, we came to the conclusion that the surest guide to the meaning of a dream is the feeling and judgment of the dreamer himself ..." (Faraday, 1974, p. xiii).

4. See Kahn, Dement, Fisher, Barmack (1962)

5. "Not only is dreaming universal but every individual dreams every night and throughout the night. This can be demonstrated by awakening people at random and asking them if they have been dreaming. Dreams have been reported from such awakenings at any time during the night. Dreaming may be a continuous process during sleep" (Hall & Nordby, 1972, p. 16).

6. Few differences between sleep talkers and control groups have been found, although "the future possibility of finding subtle psychological differences between sleep talkers and 'silent sleepers' cannot be excluded" (Arkin, 1978, p. 515).

7. See Meddis, Pearson and Langford (1973) along with a chapter entitled "Very short sleepers" in Meddis (1977).

8. "Many investigators felt that the REM periods themselves must be a response to some kind of stimulus - an over-distended stomach, the need to urinate, the sudden sound of a fire siren, etc." (Dement, 1978, pp. 35-36). They tested the theory and found no support for the idea expressed in this statement. For example, "Our results showed absolutely no relationship between the spontaneous awakening with an urgent need to urinate and the rhythmically occurring REM periods" (p. 36).

9. Webb (in Goleman, 1982, p. 31) in answer to the question "How much sleep do we need to be at our best?" responded "It varies from person to person, and age to age. Each person has a natural sleep length. ...To demand that all people sleep seven or eight hours means that something like 60 percent of people are sleeping 'badly' if they get the length of sleep that is natural for them. It's like demanding everyone be a medium shirt size" (p. 31). According to Myths and Facts About Sleep, "For most adults, 7 or 8 hours is normal. But sleep patterns vary widely; some people sleep for less than 4 hours while others sleep more than 10" (p. 1).

10. "This review suggests that salience and interference are more viable alternatives to the repression hypothesis of dream recall" (Cohen, 1974, p. 151).

11. "Apart from extreme sleepiness and the microsleeps, however, there is remarkably little abnormal pathology associated with extended stints of sleeplessness" (Hauri, 1977, pp. 18-19).

12. "If you miss sleep on one night, you make it up by sleeping more on the next. It is as if your body 'knows' just how much sleep it needs and has some special system for making sure it gets its quota. Unfortunately, we are again faced with an ambiguity which makes this argument seem a little unconvincing. The amount of 'recovery' sleep does not correspond with the amount of sleep lost (Meddis, 1977, p. 59).

    "Recovery sleep need not be equal in length to total sleep loss" (Hauri, 1977, p. 19).

13. "This patient was unable to breathe and sleep at the same time" (Dement, 1978, p. 74). This statement is taken from a discussion of the sleep disorder known as sleep apnea.

14. During REM sleep the brain is clearly quite active. In fact, REM sleep has been called "paradoxical sleep" and "active sleep" because of the intense brain activity (Cartwright, 1978, pp. 11-12).

15. "Short, but almost irrestible daytime sleep attacks. This is the primary and most disabling symptom of classical narcolepsy" (Hauri, 1977, p. 37).

16. See Evans, Cook, Cohen, Orne, & Orne (1977) and Taub, Tanguay, & Clarkson (1976).

17. "Unpleasant dreams are more numerous than pleasant ones, and as one gets older the proportion of unpleasant dreams increases ... fear is more common than anger and sadness is more common than happiness. The unpleasant emotions of fear, anger, and sadness are twice as frequent as the pleasant emotions of jov and happiness" (Hall, 1966, p. 40).

18. "It is interesting that men dream more often about male friends and acquaintances than they do about females, while women dream about equally of both sexes" (Hall, 1966, p. 29).

19. At birth, 50% of sleep is REM sleep and it is reduced as we grow older (Roffwarg, Muzio, & Dement, 1966).

20. Randy Gardner has gone 264 hours without sleep (Gulevich, Dement, Johnson, 1966).

21.	SLEEPWALKERS ARE ACTING OUT THEIR DREAMS.	60%	40%
22.	YOU ARE MOST LIKELY TO HAVE A VIVID DREAM RIGHT AFTER YOU FALL ASLEEP WHEN THE DAY'S EVENTS ARE FRESH IN YOUR MIND.	45%	55%
23.	MOST INSOMNIA IS CAUSED BY EXCESSIVE MUSCLE TENSION	69%	31%
24.	BARBITURATES CAN INDUCE A SLEEP THAT IS JUST LIKE NATURAL SLEEP.	32%	68%
25.	SOME DRUGS USED TO TREAT INSOMNIA ACTUALLY MAKE THE INSOMNIA WORSE.	90%	10%
26.	MOST PEOPLE FIND IT SO HARD TO SLEEP IN A SLEEP LAB THAT THEY TAKE MORE THAN A WEEK TO ADJUST TO THE SURROUNDINGS.	82%	18%
27.	PEOPLE FREQUENTLY GIVE AWAY THEIR SECRETS DURING SLEEPTALKING EPISODES.	60%	40%
28.	AS ONE GETS OLDER, THE DEEPEST STAGES OF SLEEP INCREASE AS THEY ARE NEEDED MORE.	46%	54%
29.	SOME RESEARCHERS BELIEVE SLEEP DOES NOT SERVE A PURPOSE.	21%	79%
30.	SLEEPWALKING IS USUALLY CAUSED BY EPILEPSY.	3%	97%
31.	BEDWETTING IS USUALLY DUE TO THE EFFECTS OF DREAM CONTENT.	41%	59%
32.	IT IS NOT POSSIBLE TO REDUCE SLEEP TIME BY MORE THAN AN HOUR.	20%	80%
33.	ONLY A VERY SMALL MINORITY OF ADULTS TAKE NAPS.	37%	63%
34.	AFTER YOU HAVE TAKEN SLEEPING PILLS FOR SOME TIME, ABRUPT WITHDRAWAL FROM THE DRUG MAY CAUSE NIGHTMARES.	78%	22%
35.	SLEEPWALKERS ARE FREQUENTLY ABLE TO MANUEVER AROUND LARGE OBSTACLES WITH NO DIFFICULTY AT ALL.	88%	12%
36.	SOME PEOPLE MAY WAKE UP AS MANY AS 500 TIMES PER NIGHT AND YET NOT KNOW IT.	66%	33%
37.	THE MOST COMMON TYPE OF INSOMNIA OCCURS IN INDIVIDUALS WHO WAKE UP VERY EARLY IN THE MORNING AND CANNOT GET BACK TO SLEEP.	62%	38%
38.	NIGHT TERRORS ARE JUST VERY BAD DREAMS.	65%	35%
39.	DURING SOME SLEEP DISORDERS, THE SLEEPER'S HEART BEAT MAY INCREASE THREEFOLD.	91%	8%

21. "Sleepwalking is often a disorder of arousal, an inability to awaken completely when disturbed in delta sleep. It is not the acting out of a dream" (Hauri, 1977, p. 65).

22. Since REM periods become longer as sleep proceeds and since REM experiences are more vivid, recalled dream experiences are most likely to occur late during sleep (Webb & Bennet, 1979).

23. Lichstein and Rosenthal found that insomniacs are most likely to blame their insomnia on cognitive rather than somatic arousal.

24. Barbiturates distort sleep, especially REM sleep (Hartmann, 1978).

25. "Most sleeping pills make sleep worse" (Dement, 1978, p. 83).

26. "Most often, one night of adaptation is sufficient to familiarize the subject with the routines" (Cartwright, 1978, p. 47).

27. "Turning to the content of sleep speech, one is struck first by the rarity of secrets. This provides a contrast to widely held popular belief and frequent use of sleeping talking in literature as a technical means by which the 'real truth' comes to light" (Arkin, 1978, p. 522).

28. See Williams, Karacan, & Hursch (1974). Note that stage 4 sleep declines with age.

29. "This book describes and argues for a theory which not only runs counter to current medical thought but also challenges what appears to be good common sense. The theory is that sleep serves no important function in modern man" (Meddis, 1977, in preface).

30. Epilepsy is rarely a cause of sleepwalking (Hauri, 1977).

31. Myths and Facts About Sleep (1981, p. 8).

32. Mullaney, Johnson, Naitoh, Friedmann, & Globus (1977) reported that two 8-hour sleepers reduced their sleep to 5.5 hours, 2 to 5.0 hours and 2 reached 4.5 hours. These 6 subjects continued sleeping 1 to 2.5 hours below baseline amounts a year after reduction terminated.

33. Evans et al. (1977) report that, at least in young adults, naps are not at all infrequent.

34. "Withdrawal from most hypnotics usually results in an increase in and intensification of REM sleep. This REM rebound may cause increased and unpleasant dreaming, even nightmares, and patients should be warned about this possibility when withdrawing from hypnotics" (Hauri, 1977, p. 33).

35. "In this confusional state, relatively simple behavior patterns can be carried out, but the senses are dull ... coordination is poor. Reports of exequisite balancing acts on roof tops and window ledges are exaggerated, and somnambulists have fallen to their deaths after mistaking a window for a door" (Hauri, 1977, p. 65). Somnambulists may avoid obstacles, but "they frequently do hurt themselves" (Project Sleep, 1981, p. 10).

36. "Apparently these patients are so habituated to their illness that they are completely unaware of the fact that they may awaken as many as 500 times during the night ...." (Dement, 1978, p. 75). Dement is discussing patients with sleep apnea.

37. Roth, Kramer, and Lutz (1976) report that sleep-onset insomnia is the most common form.

38. There are several differences between nightmares and night terrors, not the least of which is the fact that night terrors occur out of stages 3 and 4 while nightmares occur out of REM sleep. The night terror is far more intense physiologically (Kahn, Fisher, Edwards, 1978).

39. Kahn et al. (1978) note that "heart rates have almost tripled for the night terror while in the REM anxiety dream the greatest heart rate acceleration at our laboratory was from 76 to 92 beats per min" (p. 533).

REFERENCES

Arkin, A. M. Sleeptalking. In A. M. Arkin, J. S. Antrobus, S. J. Ellman (Eds.), The mind in sleep: Psychology and psychophysiology. Hillsdale, N. J.: Lawrence Erlbaum, 1978.

Cartwright, R. D. A primer on sleep and dreaming. Reading, MA: Addison-Wesley, 1978.

Cohen, D. B. Toward a theory of dream recall. Psychology Bulletin, 1974, 81 138-154.

Dement, W. C. Some must watch while some must sleep. New York: W. W. Norton, 1978.

Evans, F. J., Cook, M. R., Cohen, H. D., Orne, E. C. & Orne, M. T. Appetitive and replacement naps: EEG and behavior. Science, 1977, 197, 687-689.

Faraday, A. The dream game. New York: Harper & Row, 1974.

Goleman, D. Staying up: The rebellion against sleep's gentile tyranny. Psychology Today, 1982, 16, 24-35.

Gulevich, G., Dement, W., Johnson, I. Psychiatric and EEG observations on a case of prolonged (264 hours) wakefulness. Archives of General Psychiatry, 1966, 15, 29-35.

Hall, C. S. The meaning of dreams. New York: McGraw-Hill, 1966.

Hall, C. S., & Nordby, V. J. The individual and his dreams. New York: New American Library, 1972.

Hartmann, E. The sleeping pill. New Haven: Yale University Press, 1978.

Hauii, P. The sleep disorders. Kalamazoo, MI: The Upjohn Company, 1977.

Kahn, E., Dement, W. C., Fisher, C., Barmack, J. L. The incidence of color in immediately recalled dreams. Science, 1962, 137, 1054.

Kahn, E., Fisher, C., Edwards, A. Night terrors and anxiety dreams. In A. M. Arkin, J. S. Antrobus, S. J. Ellman (Eds.), The mind in sleep: Psychology and psychophysiology. Hillsdale, N. J.: Lawrence Erlbaum, 1978.

Lichstein, K. L., & Rosenthal, T. L. Insomniacs' perceptions of cognitive versus somatic determinants of sleep disturbance. Journal of Abnormal Psychology, 1980, 89, 105-107.

Meddis, R. The sleep instinct. London: Routledge & Kegan Paul, 1977.

Meddis, R., Pearson, A. J. D., Langford, G. An extreme case of healthy insomnia. Electroencephalography and Clinical Neurophysiology, 1973, 35, 213-214.

Mullaney, D. J., Johnson, L. C., Naitoh, P., Friedmann, J. K., Globus, G. G. Sleep during and after gradual sleep reduction. Psychophysiology, 1977, 14, 237-244.

Project Sleep. Myths and facts about sleep. U. S. Department of Health and Human Services National Program on Insomnia and Sleep Disorders, 1981 (DHHS Publication No. ADM 81-1108).

Roffwarg, H. J., Muzio, J., Dement, W. Ontogenetic development of the human sleep-cycle. Science, 1966, 152, 604-619.

Roth, T. Kramer, M., & Lutz, T. The nature of insomnia: A descriptive summary of a sleep clinic population. Comprehensive Psychiatry, 1976, 17, 217-220.

Taub, J. M., Tanguay, P. E., & Clarkson, D. Effects of daytime naps on performance and mood in a college student population. Journal of Abnormal Psychology, 1976, 85, 210-217.

Webb, W. B., & Bonnet, M. H. Sleep and dreams. In M. E. Meyer (Ed.), Foundations of contemporary psychology. New York: Oxford University Press, 1979.

Williams, R., Karacan, I., & Hursch, C. Electroencephalography (EEG) of human sleep: Clinical applications. New York: Wiley, 1974.